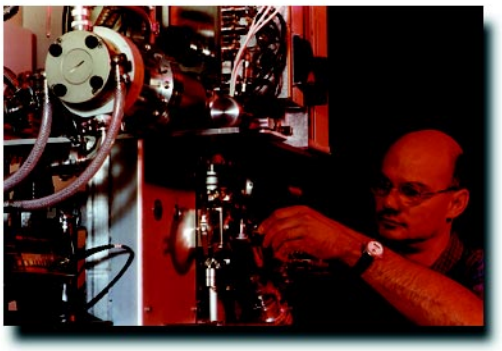

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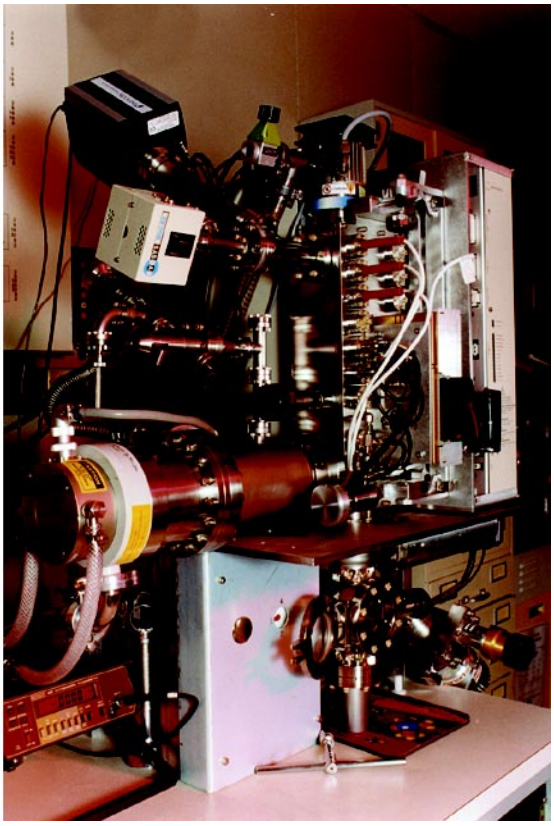

PN01-0380-3-13

Ion Trap – Secondary Ion Mass Spectrometer

Problem
The INEEL's Three Mile Island spent fuel transfer project needed procedures to assure that silicone grease was removed from stainless steel canisters before shield plugs were welded in place.

Baseline Technology
No baseline technology.

Innovative Technology
The INEEL-developed Ion Trap – Secondary Ion Mass Spectrometer uses an ion beam to mobilize a volume of trace contaminants for analysis by a mass spectrometer.

Comparison
This instrument detected trace amounts of silicone compounds on test strips of polished stainless steel and provided useful information that was written into procedural directives.

Benefits
This instrument enabled development of surface cleaning procedures that ensure closure welds are not compromised by small silicon cavities, and contributed to successful completion of a key Idaho Settlement Agreement milestone.

SPENT NUCLEAR FUEL PROGRAM

Project: ID-SNF-104N
Constructed New Facilities – Non Defense
OST #135